

## CLAIMS

### **WHAT IS CLAIMED IS:**

1. A genetically engineered mammalian cell that has  
5 been mutated by a process comprising the insertion of a  
recombinantly manipulated polynucleotide sequence into a  
gene in said genetically engineered mammalian cell wherein  
said gene is identifiable as corresponding to at least one  
of SEQ ID NOS: 1-574.

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2. The genetically engineered mammalian cell of  
Claim 1, wherein said cell is murine.

3. A cell according to Claim 2, wherein said cell is  
15 an embryonic stem cell.

4. The genetically engineered mammalian cell of  
Claim 1, wherein said polynucleotide sequence is present  
on a viral vector.

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5. A cell according to Claim 4, wherein said viral  
vector is a retroviral vector.

6. A cell according to Claim 4, wherein said viral  
25 vector additionally comprises regions of targeting DNA  
that facilitate gene targeting by homologous  
recombination.

7. An isolated murine embryonic stem cell line  
30 comprising an engineered retroviral gene trap vector in at  
least one gene comprising a polynucleotide sequence first  
disclosed in one of SEQ ID NOS: 1-574.